



# **Toolik Field Station Annual Meeting CPS Facilities Presentation**

26 January 2017



## Overview:

- Science Construction, Boardwalks & BLM Permits (Annelisa)
- Toolik Long Range Facilities Plan (Jeff Sever)
- High Level Facilities Upgrades Schedule (Dave Smith)
- Recap of 2016 Construction
- Upcoming 2017 Construction

## Boardwalks

- Plans for APP6
- Permitting Status for General Use Boardwalks



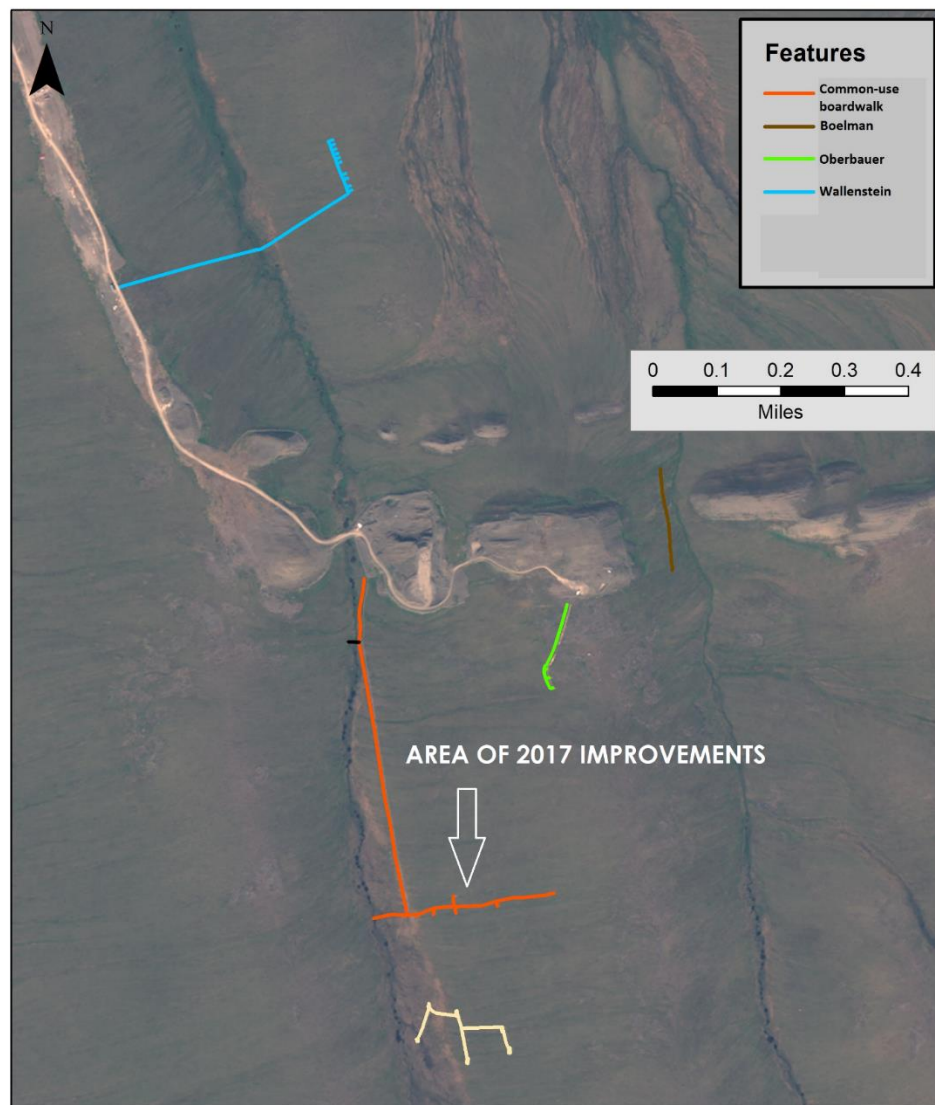
# Toolik Field Station – Annual Meeting – January 2017



## Toolik Field Station Boardwalks

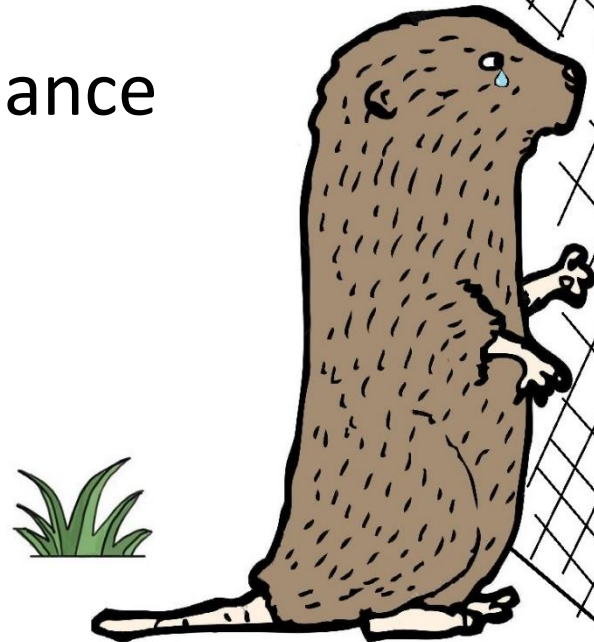
Innavait Research Area

19 March 2013



## Science Project Support

- Boelman Installation – Boardwalk and Fence flashing
- Helmig Flex Hut removal
- Bret-Harte system maintenance

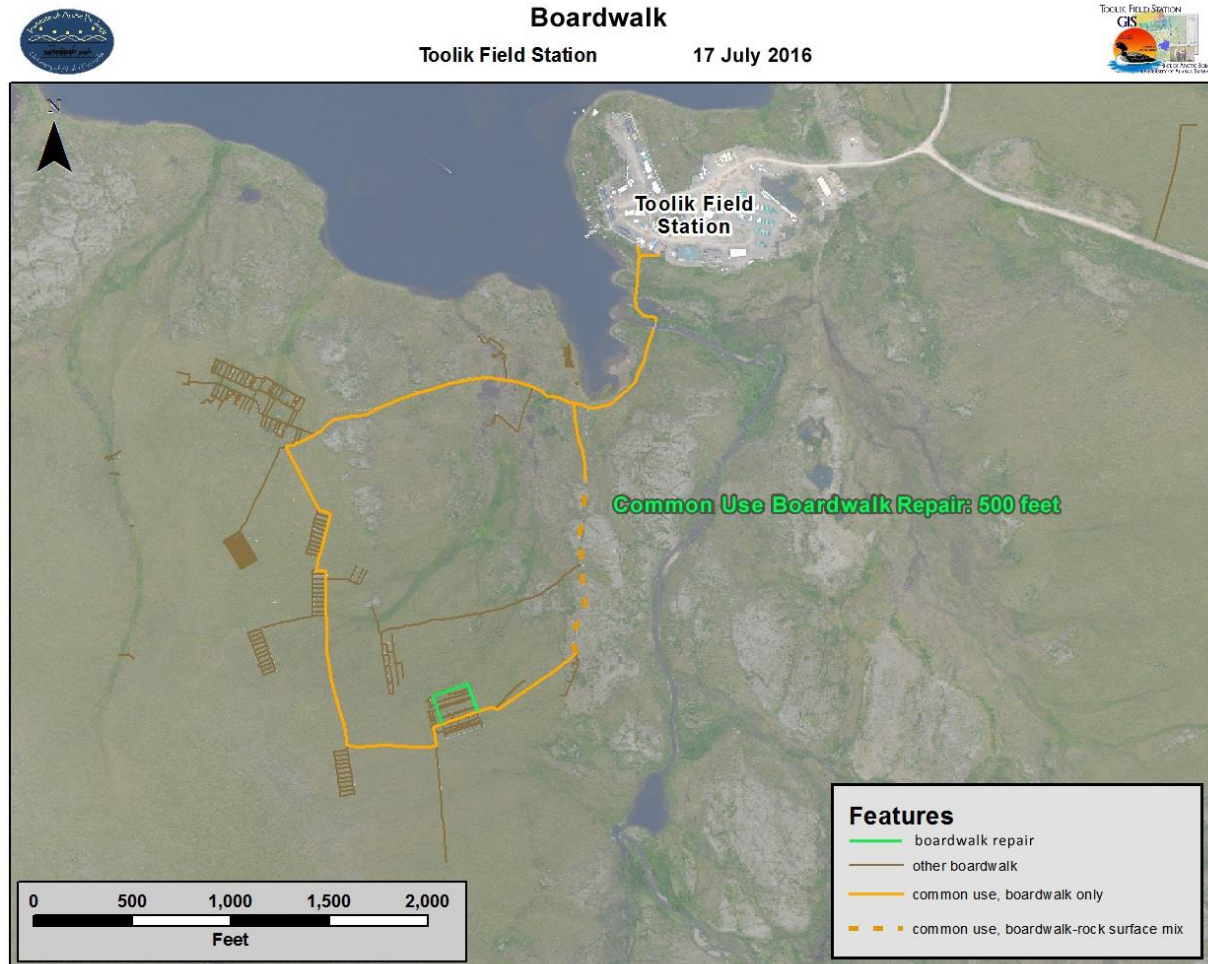




# Fetcher Toolik Area Boardwalk

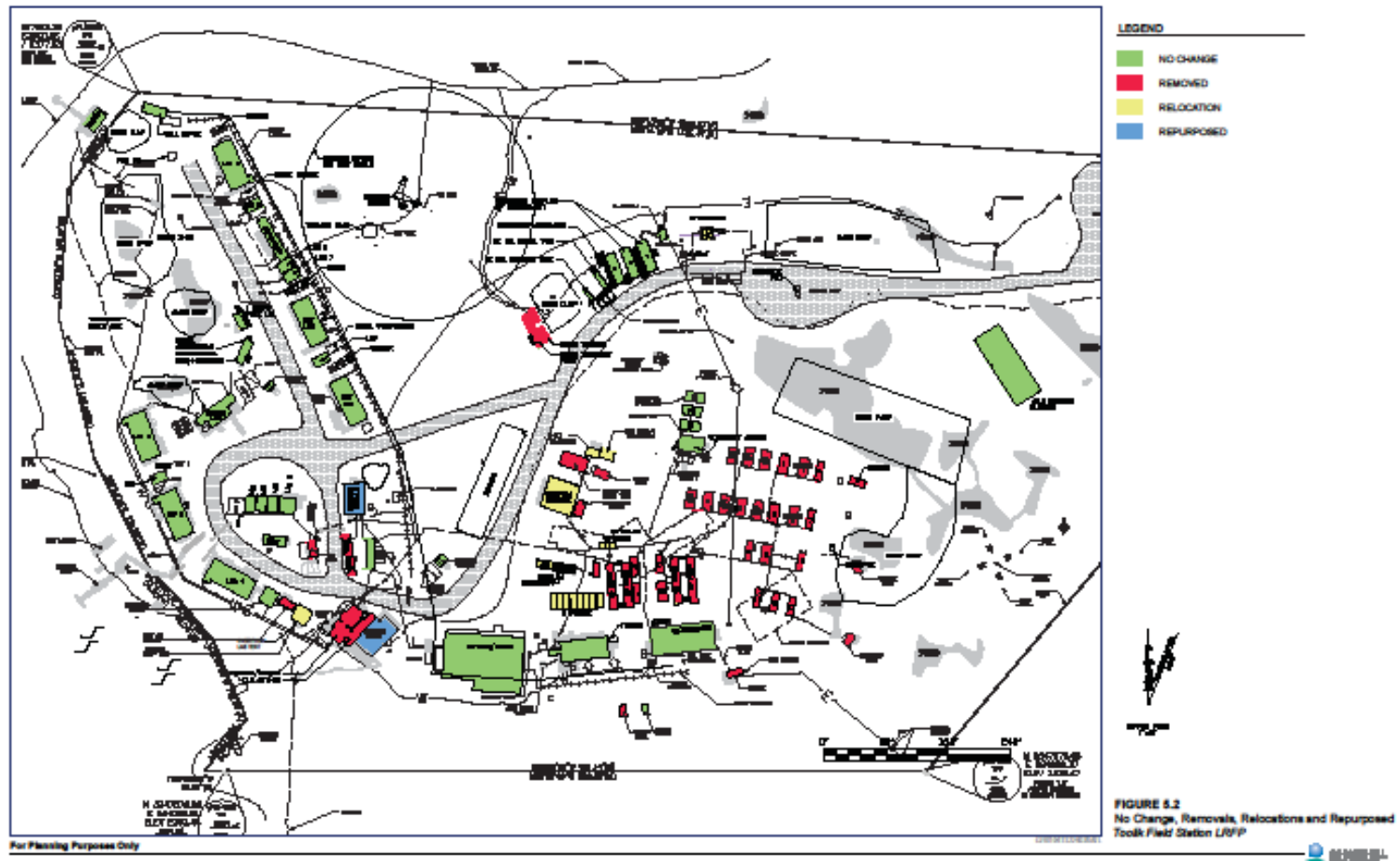


# LTER Boardwalk: 500 ft of replacement plank



- Actually needed/wanted?
- Which location?

# Long Range Facilities Plan – Previous Plan





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# Long Range Facilities Plan V2 – Updated timeline



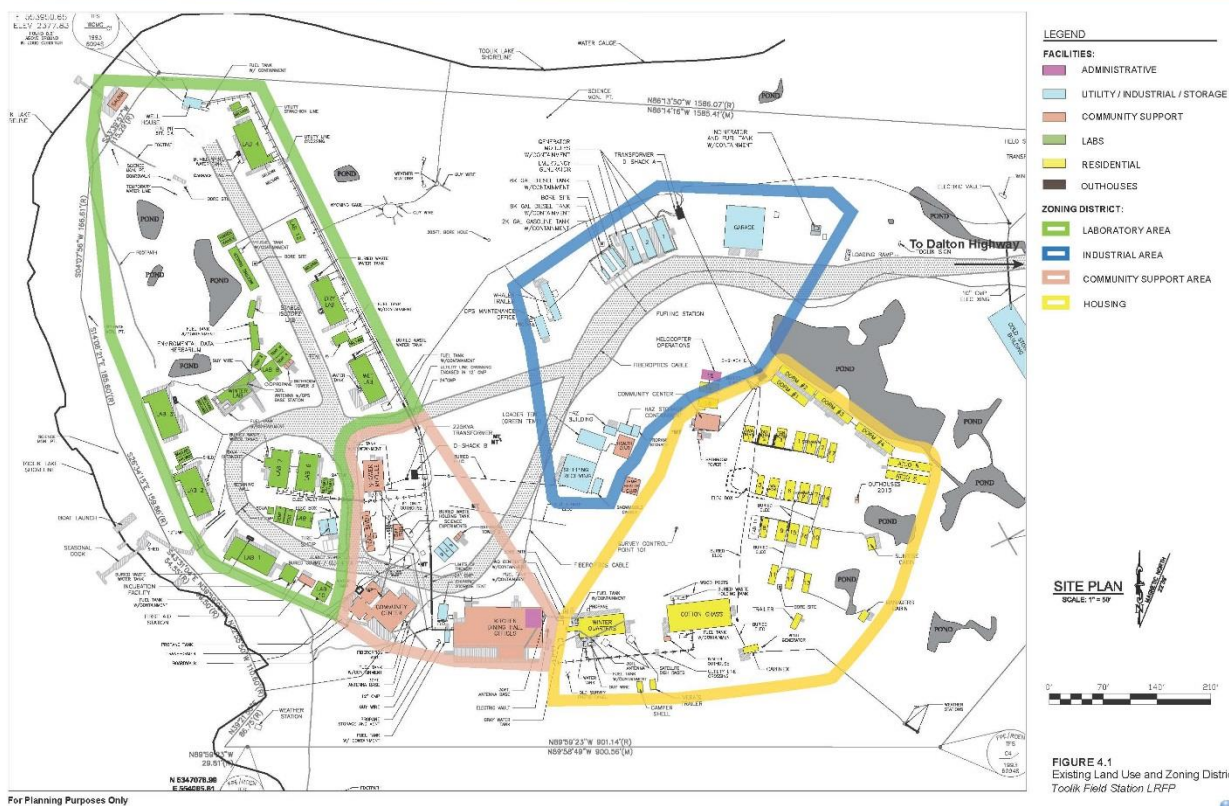
Figure 1.1: Generalized History of Toolik Field Station

Toolik Field Station Master Plan

1-5

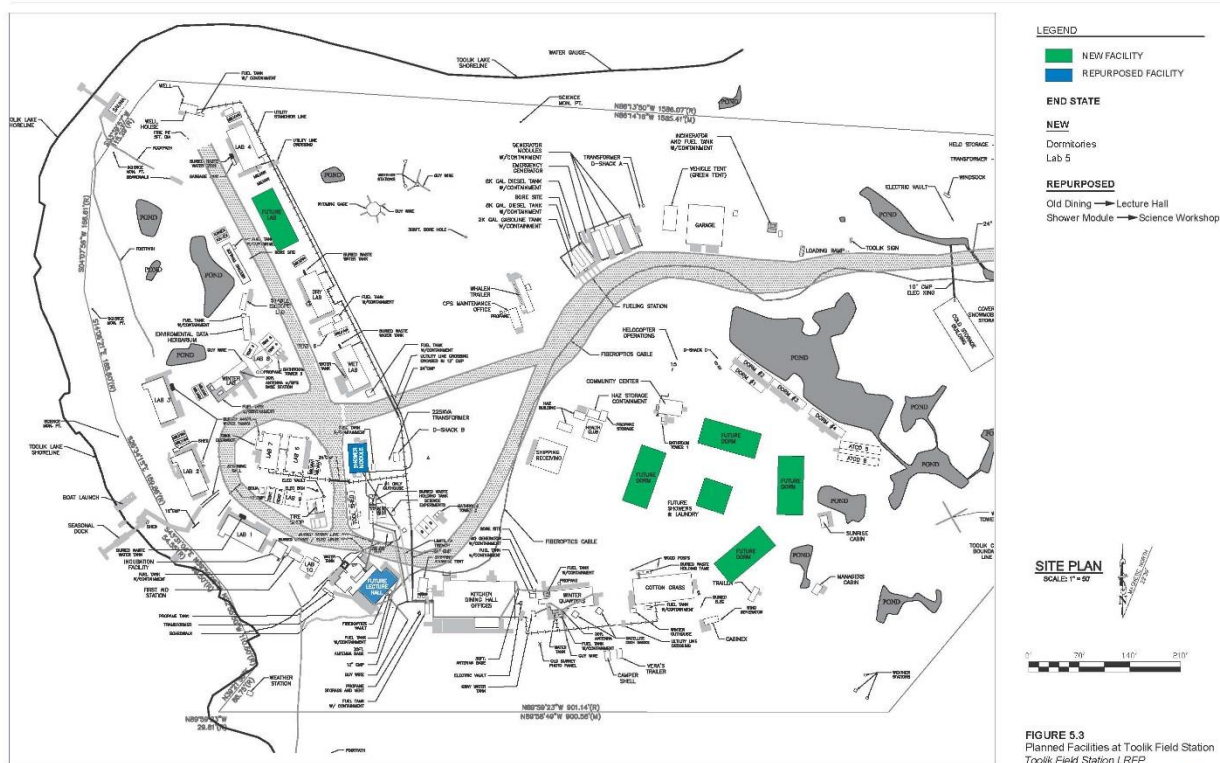
# Long Range Facilities Plan V2 – Zones

Chapter 4-Site Development: Constraints and Principles



## Long Range Facilities Plan V2 – Planned

### Chapter 5-Toolik Field Station Development Plan



# Facilities Upgrades

- Completed Work
  - Dining Facility - 2010
  - Cotton Grass Upgrades - 2012
  - Garage, ATCO Berthing (8 Room, 16 Bed) Waste Heat, and Labs 6 & 7 Start Up - 2015





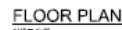
# Facilities Upgrades Cont.

- Lab 5
  - 2014 Bids for Current Design - ~\$3M
  - 2014 Modular Building Bids for a Similar Footprint - ~\$1.4M
  - 2018 Budgeted Cost in Upgrades Schedule - \$2M



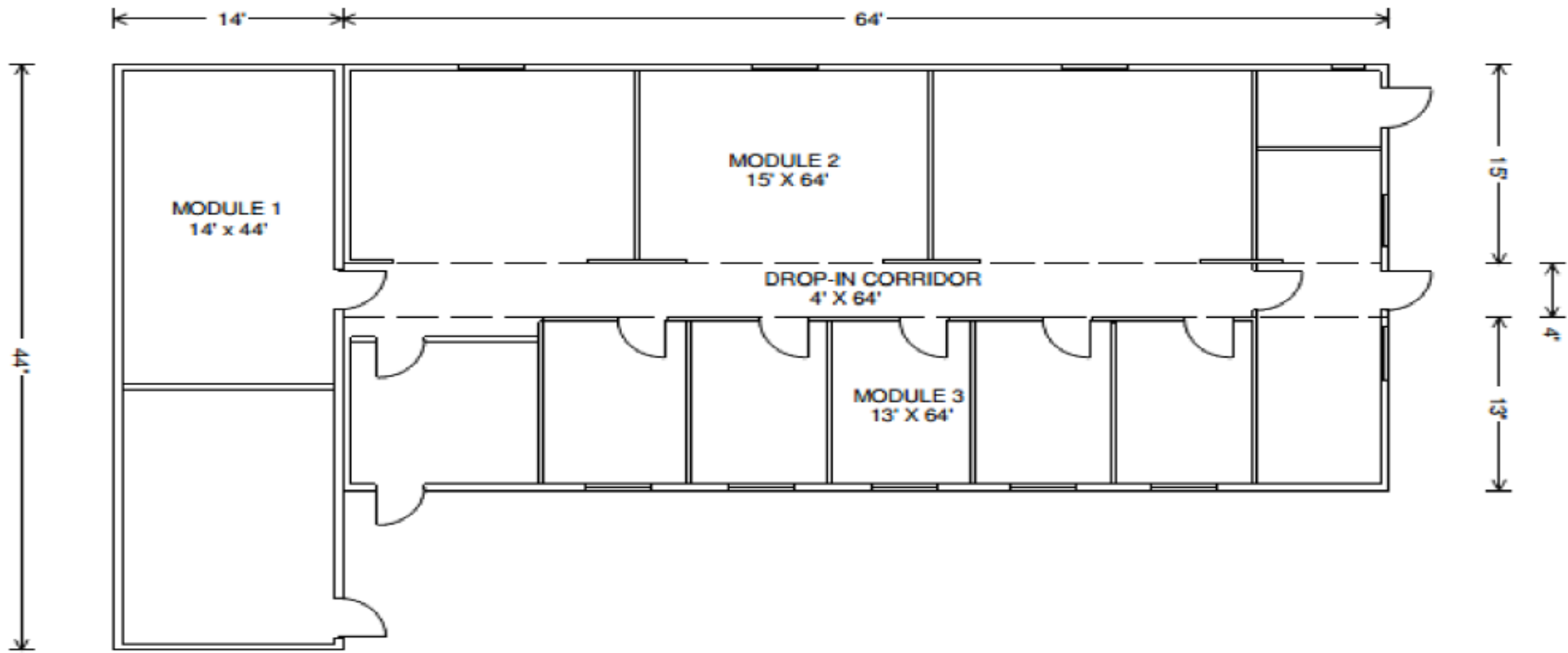


- Lab 5 – Current Design



## Facilities Upgrades Cont.

- Lab 5 – Modular Concepts



# Facilities Upgrades Cont.

- Proposed New Dorm
  - 2012 Estimate for Current Design - ~\$6M
  - 2019 Budgeted Cost in Toolik Upgrades Schedule - \$2.5M










# Toolik Field Station – Annual Meeting – January 2017

## Facilities Upgrades Schedule

| Facility Upgrades-Toolik-170123 |             |             | Data Date 30-Dec-16  |                     |                   |                         |                |                          |                 |                  | printed - 24-Jan-17 |      |      |      |      |  |
|---------------------------------|-------------|-------------|----------------------|---------------------|-------------------|-------------------------|----------------|--------------------------|-----------------|------------------|---------------------|------|------|------|------|--|
| Activity Name                   | Start       | Finish      | Budget at Completion | Actual Cost to Date | ARRA Cost To Date | RSL Actual Cost to Date | RSL Forecasted | NEON Actual Cost to Date | NEON Forecasted | UAF Cost To Date | 2016                | 2017 | 2018 | 2019 | 2020 |  |
| Facility Upgrades-Toolik-1      | 01-Feb-10 A | 23-Nov-20   | \$21,961,906         | \$15,391,258        | \$5,000,000       | \$5,950,681             | \$6,539,300    | \$4,222,947              | \$0             | \$217,630        |                     |      |      |      |      |  |
| Project/Const. Mgmt (71)        | 01-Feb-13 A | 22-Jan-16 A | \$145,286            | \$143,940           | \$0               | \$119,874               | \$0            | \$24,066                 | \$0             | \$0              |                     |      |      |      |      |  |
| Base Construction (07)          | 01-Feb-12 A | 30-Jan-15 A | \$124,534            | \$124,534           | \$0               | \$124,534               | \$0            | \$0                      | \$0             | \$0              |                     |      |      |      |      |  |
| Maintenance (08)                | 01-Feb-12 A | 31-Jan-20   | \$4,824,509          | \$2,889,850         | \$0               | \$2,889,850             | \$1,904,300    | \$0                      | \$0             | \$0              |                     |      |      |      |      |  |
| Cotton Grass (61)               | 14-May-12 A | 30-May-14 A | \$196,212            | \$196,212           | \$0               | \$196,212               | \$0            | \$0                      | \$0             | \$0              |                     |      |      |      |      |  |
| Construction/ Fieldwork         | 14-May-12 A | 30-May-14 A | \$196,212            | \$196,212           | \$0               | \$196,212               | \$0            | \$0                      | \$0             | \$0              |                     |      |      |      |      |  |
| Dining Hall / Ops Center (66)   | 01-Feb-10 A | 12-Jul-13 A | \$6,434,862          | \$6,434,862         | \$5,000,000       | \$1,317,309             | \$0            | \$0                      | \$0             | \$117,554        |                     |      |      |      |      |  |
| Engineering / Design            | 01-Feb-10 A | 23-Apr-10 A | \$485,288            | \$485,288           | \$0               | \$485,288               | \$0            | \$0                      | \$0             | \$0              |                     |      |      |      |      |  |
| Procurement                     | 01-Mar-10 A | 28-May-10 A | \$235,031            | \$235,031           | \$0               | \$117,477               | \$0            | \$0                      | \$0             | \$117,554        |                     |      |      |      |      |  |
| Construction/ Fieldwork         | 03-May-10 A | 12-Jul-13 A | \$5,714,543          | \$5,714,543         | \$5,000,000       | \$714,543               | \$0            | \$0                      | \$0             | \$0              |                     |      |      |      |      |  |
| Garage (69)                     | 07-May-12 A | 31-Dec-15 A | \$3,962,435          | \$3,962,435         | \$0               | \$362,765               | \$0            | \$3,599,669              | \$0             | \$0              |                     |      |      |      |      |  |
| Engineering / Design            | 07-May-12 A | 12-Dec-14 A | \$334,095            | \$334,095           | \$0               | \$334,095               | \$0            | \$0                      | \$0             | \$0              |                     |      |      |      |      |  |
| Procurement                     | 18-Aug-14 A | 15-May-15 A | \$72,450             | \$72,450            | \$0               | \$0                     | \$0            | \$72,450                 | \$0             | \$0              |                     |      |      |      |      |  |
| Construction/ Fieldwork         | 28-May-13 A | 31-Dec-15 A | \$3,555,890          | \$3,555,890         | \$0               | \$28,671                | \$0            | \$3,527,219              | \$0             | \$0              |                     |      |      |      |      |  |
| Laboratories 6 & 7 (72)         | 02-Jun-14 A | 27-Nov-15 A | \$297,049            | \$297,049           | \$0               | \$110,895               | \$0            | \$86,079                 | \$0             | \$100,075        |                     |      |      |      |      |  |
| Engineering / Design            | 16-Nov-15 A | 27-Nov-15 A | \$627                | \$627               | \$0               | \$0                     | \$0            | \$627                    | \$0             | \$0              |                     |      |      |      |      |  |
| Procurement                     | 04-Aug-14 A | 21-May-15 A | \$117,089            | \$117,089           | \$0               | \$80,629                | \$0            | \$36,460                 | \$0             | \$0              |                     |      |      |      |      |  |
| Delivery                        | 02-Jun-14 A | 10-Aug-15 A | \$118,018            | \$118,018           | \$0               | \$14,192                | \$0            | \$3,751                  | \$0             | \$100,075        |                     |      |      |      |      |  |
| Construction/ Fieldwork         | 11-Aug-14 A | 17-Sep-15 A | \$61,314             | \$61,314            | \$0               | \$16,073                | \$0            | \$45,241                 | \$0             | \$0              |                     |      |      |      |      |  |
| Utility Distribution (46)       | 26-Jul-12 A | 19-Aug-16 A | \$443,983            | \$444,340           | \$0               | \$174,281               | \$0            | \$270,059                | \$0             | \$0              |                     |      |      |      |      |  |
| Engineering / Design            | 31-Aug-15 A | 27-Nov-15 A | \$10,876             | \$10,876            | \$0               | \$0                     | \$0            | \$10,876                 | \$0             | \$0              |                     |      |      |      |      |  |
| Procurement                     | 26-Jul-12 A | 26-Jun-15 A | \$201,912            | \$201,912           | \$0               | \$81,830                | \$0            | \$120,082                | \$0             | \$0              |                     |      |      |      |      |  |
| Construction/ Fieldwork         | 29-Aug-12 A | 19-Aug-16 A | \$231,195            | \$231,552           | \$0               | \$92,451                | \$0            | \$139,101                | \$0             | \$0              |                     |      |      |      |      |  |
| Laboratory 0 (70)               | 01-Feb-12 A | 18-Sep-19   | \$2,343,239          | \$283,239           | \$0               | \$40,165                | \$2,060,000    | \$243,074                | \$0             | \$0              |                     |      |      |      |      |  |
| Engineering / Design            | 01-Feb-12 A | 22-Jan-14 A | \$275,394            | \$275,394           | \$0               | \$32,320                | \$0            | \$243,074                | \$0             | \$0              |                     |      |      |      |      |  |
| Procurement                     | 12-Feb-18   | 12-Feb-18   | \$0                  | \$0                 | \$0               | \$0                     | \$0            | \$0                      | \$0             | \$0              |                     |      |      |      |      |  |
| Construction/ Fieldwork         | 14-Jul-14 A | 18-Sep-19   | \$2,067,845          | \$7,845             | \$0               | \$7,845                 | \$2,060,000    | \$0                      | \$0             | \$0              |                     |      |      |      |      |  |
| Dormitory A (68)                | 28-Mar-12 A | 23-Nov-20   | \$3,189,798          | \$614,798           | \$0               | \$614,798               | \$2,575,000    | \$0                      | \$0             | \$0              |                     |      |      |      |      |  |
| Engineering / Design            | 28-Mar-12 A | 19-Oct-12 A | \$547,566            | \$547,566           | \$0               | \$547,566               | \$0            | \$0                      | \$0             | \$0              |                     |      |      |      |      |  |
| Construction/ Fieldwork         | 31-Aug-12 A | 23-Nov-20   | \$2,642,231          | \$67,231            | \$0               | \$67,231                | \$2,575,000    | \$0                      | \$0             | \$0              |                     |      |      |      |      |  |
|                                 |             |             |                      |                     |                   |                         |                |                          |                 |                  |                     |      |      |      |      |  |



Facility Upgrades-Toolik-170123  
1 of 1





Facility Upgrades-Toolik-170123

1 of 1



CH2MHILL  
Polar Services



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Polar Services

## 2016 Summer Construction Projects

- Spring Projects
  - Imnavait Boardwalk upgrade
  - Boelman Boardwalk decommission





## 2016 Summer Construction Status (cont.)

- Spring Projects

- Waste Heat Recovery Punchlist
- Waste Heat Extension to the Emergency Generator
- Dining Facility Waterless urinal
- Entry Decks for ATCO 5 and 6
- NEON Electrical Power service drop
- PLC Power and Enclosure installation in Labs
- Incubation Facility electrical circuit upgrade



# 2016 Summer Construction Status

- Fall Projects

- Vehicle Tent Relocation
- Snow Machine shop relocation (Haz Mat)
- Dining Facility Gravel Pad assessment
- Phase 1 electrical code compliance for tent city
- Power Meters for Boat dock and Conde Hut
- Boardwalk installation - Imnavait and ITEX
- Boelman Vole Fence installation
- Electrical power installation to Connex 8



## 2017 Approved Projects

- Continue Boardwalk upgrades
- Tent City electrical code compliance
- Raise the Generator bulk diesel fuel tank
- Backflow preventer valves in Lab 6 and 7
- Boelman Vole Fence boardwalk installation
- Obrist / Helmig decommission
- Fetcher decommission

